

## WOOD PAVEMENT.—INFRINGEMENT OF PATENT.

NORTHERN CIRCUIT.—LIVERPOOL, SEPT. 1.

STEAD V. WILLIAMS AND OTHERS.

This was an action by Mr. Stead, the original patentee of wood paving, against the defendants, for infringing his patent.—Mr. Martin and Mr. Webster were for the plaintiff; and Mr. Warren for the defendants.—Mr. J. Duncan (of 72, Lombard-street) was solicitor for the plaintiff.

It appeared that the defendants (the Metropolitan Wood Pavement Company), who have a patent of their own for a certain form of block in wood paving, had been employed to lay down several of the streets in Manchester after their improved mode. The question in dispute was, the validity of Stead's patent, which was taken out in 1838, and confirmed by Act of Parliament in 1841, and by the specification of which the wood was to be cut in blocks of equal sizes and dimensions, and of square, hexagonal, and triangular forms, which embraces every angular shape, and placed on a hard surface of gravel rolled smooth. It was recommended the wood should be saturated with tar, and covered with tar and gravel, the interstices being filled up with sand or gravel, and dowels being used to join the blocks together; but these latter matters were not claimed as part of the patent. This mode of paving had been, it was stated, communicated to Mr. Stead by a foreigner. There were several pleas on the record, in substance as follows:—

1. Not guilty; 2. That the plaintiff was not the true and first inventor of the process; 3. That this was not a new manufacture; 4. That the discovery was not useful; 5. That it was not properly described in the specification; 6. That long before the patent was granted the invention was well known in this country; 7. That the title of the specification was too large and vague.—The principal questions between the parties were, respecting the second plea—whether the plaintiff was the first inventor in this country; and the sixth plea—whether the invention was publicly known in this country before the patent was granted. As to the first, it appeared that in the *London Journal of Arts and Sciences*, in the month of March, 1836, there appeared a letter from a Mr. Finlayson, recommending a pavement for the streets of London and other large cities, the principal material of which was to be wood. It was proposed that the blocks of wood cut square and slightly tapering, were to be inserted into oblong iron boxes, so large as to contain eighteen blocks, each block to fit into a socket prepared for it, the slight tapering being intended to make the block fit more securely; these boxes, laid alongside one another, were to constitute the pavement, the iron bottom of the box being intended to prevent one block sinking more than another. No public notice, however, appears to have been taken of this suggestion—the mode recommended, however effectual it might have proved, being too expensive for general use. In 1832, a Mr. J. Heard wrote a letter to the Society of Arts, which was inserted in their *Transactions*, and for which the thanks of the society were voted. It described a road which Mr. Heard had seen made near St. Petersburg. The surface was first to be prepared by making a hard level bed of gravel, well rolled, about ten inches lower than the intended level of the surface of the road. The blocks were then to be cut, by a stamp being driven down upon them, of a hexangular form, and placed alongside of one another on the prepared surface. A hole three inches deep was to be drilled in the side of each block, into which a pin of six inches long was to be inserted, the three inches which would project being intended to fit into the next block; the whole was then to be covered with tar, and sand scattered on the top. In March, 1834, a communication was addressed to the Society of Arts, calling their attention to Mr. Heard's letter, and remarking that he was not the original inventor of wood paving, but that it had been previously recommended by Mr. Finlayson, in the communication already referred to. It appeared that the *London Journal of Arts and Sciences* had an extensive circulation, both here and abroad, and that the proceedings of the Society of Arts, besides the copies sent to the members, are extensively distributed to the public. Of the 49th volume, in which Mr. Heard's letter appeared, upwards of 1500 copies were printed, 600 of which

belonged to members. The rest were distributed in various quarters. As to the sixth plea, evidence was given of a species of wood pavement having been previously used in various parts of the country to a small extent. At Brookers Wood, near Trowbridge, a path, a quarter of a mile long, was many years ago made by cutting young trees and thick branches into short lengths, and placing them on end alongside of one another, sometimes fitting them a little when otherwise too irregular. The same plan had been adopted at the Box Inn, in Surrey, and at Dorking, in 1823, for paving the ground round the entrance to a house, and for the floors of summer-houses. In 1827 Hammersmith-bridge was paved, or rather floored, with wood. Planks were laid longitudinally on the frame-work of the bridge, and these were crossed at right angles by others. Between these latter, however, were inserted pieces of plank, with the end of the fibre upwards, which rose an inch above the surface of the cross plank. The shallow spaces between these planks was then filled with gravel, and in the course of time more gravel was laid on until the railroad of the bridge assumed the appearance of a regular gravelled road. The most remarkable case, however, was that of the residence of Sir William Worsley, in Yorkshire. It appeared that a kind of vestibule had there been paved with regular blocks of wood. This vestibule, as it was called, led from the riding-school to the pleasure-green. It was under cover, and carriages drove into it for the purpose of setting down the parties in them. The blocks were about eight inches long, hexangular, and being made to fit into one another, were driven down with a rammer into a substratum of sand, in the same way as paving stones. They tapered, however, from the middle to the bottom more than those used by Mr. Stead. In other respects they were precisely similar. It appeared that in 1818 a patent was taken out by a Mr. McCarthy for a mode of cutting stone or other suitable material for paving roads. The object of this was to so shape the stone, &c., that each piece would derive support from the others, and the pressure would be extended over a wider surface. In 1827 a patent with a similar object was taken out by a Mr. McNamara. Wood, however, was not mentioned as one of the "suitable materials" to be employed. Stead's patent was the first for paving with wood. Since it appeared, however, forty-nine have been taken out for that purpose.

His Lordship, in summing up, went over the several issues. He said the plaintiff complained of his patent, and it was admitted that if the patent was a good one the defendants had exercised a right which belonged to him. The first important plea upon the record was that alleging that the plaintiff was not the true and first inventor in this country. If he had derived his knowledge from books or publications known to the public, or from persons in this country, he would not be the true and first inventor under the statute. If, however, he derived his knowledge by a communication from abroad, and was the first person to convey the project into execution here, he would be entitled to the protection of the statute. In his specification it was recited that the plan had been communicated to Mr. Stead by a foreigner. Of this no proof had been adduced, but, on the other hand, no direct proof had been adduced by the defendant to show that these publications in this country had come to the knowledge of Mr. Stead. It would be for the jury to say, under all the circumstances, whether they thought he had such knowledge of them. If he had, the plan proposed by Mr. Heard seemed as nearly as possible identical with that of the plaintiff. It was not, however, sufficient on this plea to deprive a man of his patent, to show that another person had previously entertained the same idea, if the patentee had himself been the inventor, and had not derived his plan from the inventor who had preceded him. As to the sixth plea, that long before the patent was granted the invention had been publicly known in this country, there was a very great difference between a knowledge of it as a thing that would suit, and a mere experiment resulting in the invention being cast aside as impracticable. In such case, the party carrying it out might be the inventor. In the present instance it would be for the jury to say how far the paths, &c., spoken to by the wit-

nesses, were laid down on the same plan suggested by the plaintiff. The most important case, certainly, was that of Sir William Worsley's, a block of which had been produced. There the pavement in question had been in use for a very considerable time; it had been used for carriages to pass over, and its existence had been a matter of common knowledge to the inmates of the house, or to visitors, or any person making use of it. Whether such a plan, if publicly made use of, had been used by one or six, made no difference, and, in his opinion, if the jury should think the two plans identical, there was an end of the patent. That, however, was a matter for their consideration solely.—The jury, after being shot up for nearly two hours, returned a verdict for the plaintiff.—This important case appears to resolve itself into a very narrow compass—whether Mr. Stead's patent is a valid one? and whether the surveyors of Manchester have infringed upon that patent, by using the Metropolitan Company's blocks? The verdict on both points has been given in favour of Mr. Stead.

## BLASTING AT THE DOVER CLIFFS BY A NEW MACHINE.

We learn from the *Dover Chronicle* that during the past few weeks several interesting experiments have been tried with a new invention for exploding gunpowder. The apparatus used, although merely a model or small machine for showing the principle of the invention, is capable of exploding several charges simultaneously, at distances from one to two hundred feet. The agent employed in this plan is common electricity, collected in Leyden jars. It will occur to those who know any thing of electricity, that it cannot be produced save in very dry weather. The inventor, Mr. R. W. Thompson, a young Scotch engineer, has overcome this difficulty by a truly ingenious discovery. He surrounds the battery and cylinder by an atmosphere kept dry by art: in other words, he encloses the apparatus in an air-tight box. The provision for drying, and keeping dry the air in this box, is extremely simple—a small vessel containing some dried chloride of calcium being placed inside in all that is required. So great an affinity has this substance for water, that it absorbs all the moisture from the air in the box, and quickly renders it perfectly dry. The box being air-tight, the air contained in it of course remains dry, notwithstanding the dampness of the atmosphere. The wires being previously arranged, the electricity is discharged through the bursting cartridges, one of these being placed in each bore or mine. In this plan of blasting, unlike the Galvanic method, the whole of the electricity goes through each bursting cartridge, the conducting wires being cut, and the ends placed a little apart. Of course a spark takes place, and explodes the substance of which these cartridges are made.

The expense and inconvenience of working galvanic batteries have altogether prevented their general introduction; and although by their means the advantages of simultaneous blasting have been clearly established, yet they have proved too complicated to be used in this way in ordinary excavating or quarrying operations. Mr. Thompson's Electrical Exploding Machine is certainly on a much more convenient and simple plan, and will quickly recommend itself to those who are engaged in excavating or quarrying works. Nor can his beautiful invention for improving the electrical machine, by placing it in an artificial atmosphere, fail to be appreciated by those who have occasion to use electricity either in the lecture-room or laboratory.

Cavalry and infantry barracks have been commenced at Newport, Monmouthshire. The area within the walls will be about ten acres, and the estimated cost of the erection is reported at from 40,000*l.* to 50,000*l.* Messrs. Rennie and Lloyd are the contractors.

The system of allotment of land, as a means of relief to the citizen, has been carried out to some extent in the neighbourhood of Leicester, and its progress is watched with great interest and anxiety. Hitherto those that have received the allotments from the society are industrious and assiduous in their endeavours to bring their plots to the highest state of cultivation; and the results, as far as the matter has gone, are most favourable, both in a moral and physical point of view.